

Sidera castanea is very common among the rocks about Mazatlan, where it reaches the length of about 4 feet, and is known to fishermen as *Anguila prieta*. It has not yet been observed elsewhere. The types numbered 28246, 29535, 29591, were collected by Mr. Gilbert.

INDIANA UNIVERSITY, November 27, 1882.

ON THE NOMENCLATURE OF THE GENUS *OPHICHTHYS*.

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The generic name "*Ophichthys* Ahl" has been adopted by Dr. Günther for a large group of eels, including numerous nominal "genera" of earlier writers. Whether this vast group will admit of further generic subdivision, we do not here propose to discuss. It is, in any event, divisible into subgenera, and for these subordinate groups we should adopt names in accordance with accepted rules of nomenclature. It becomes, therefore, important to ascertain what species should be taken as the type of *Ophichthys*.

As the original memoir of Ahl is not, as far as we know, in any American library, we have written to Dr. Lütken, of the University of Copenhagen, in regard to it. His answer to this letter is the source of the information given below in regard to the memoir in question. The following is the title:

I.X.Θ.Γ.Σ.

Specimen ichthyologicum de *Muræna* et *Ophichtho* quod seria exp. fac. med. Ups. præsid. Carol. Vet. Thunberg. æquite, etc.

Modeste offert.

Jonas Nicol. Ahl. 27 Jan. 1789. Upsalia.

The genus *Muræna* is in this paper divided into two, as follows:

Muræna.

Ophichthus.

"Animal apodum, pinnis ventralibus pectoralibus nullis. Membrana branchiostiga 10-radiata connata. Apertura branchiarum remota lateralis solitario."

"Animal apodum, pinnis ventralibus nullis; membrana branchiostiga 10-radiata connata. Apertura branchiarum remota lateralis ante pinnis pectoralis."

The species enumerated are:

MURÆNA.*

1. *M. helena* L.
2. *M. nebulosa*.
3. *M. picta*.
4. *M. annulata*.
5. *M. fasciata*.

OPHICHTHUS.

1. *O. ophis* (L.)
2. *O. serpens* (L.)
3. *O. cinereus*.
4. *O. myrus* (L.)
5. *O. conger* (L.)
6. *O. anguilla* (L.)

The first species mentioned under *Ophichthus* is noticed as follows:

“*O. ophis*: Cauda apterygia, corpore tereti, maculato. Hab. in Europeo mari et Indico.

“Synonym: *Muræna ophis* Linn. S. N. p. 425.

“*Serpens marinus maculosus* Will. app. p. 19.

“Houttyn Natural Hist. 1. D. p. 87.

“Bloch, p. II, p. 35, t. 154.”

As to the authorship of this paper, Dr. Lütken observes: “It is questionable whether the dissertation should be ascribed to the ‘Præsid.’, Thunberg or to Ahl; you will see that the contemporaneous Vahl speaks of it as being of Thunberg, without phrase, and it is ascribed to Thunberg also by Engelmann. Until a late time, in the Swedish universities, the dissertations were written by the professor and only ‘defended’ by the students whose name they bear. Thus often you will find that a page by Retzius or Linnæus was distributed to ten or twenty students, a sheet to each, for being defended, bearing these different names on their titles, but being afterwards collected and put together under the name of the *real* author. In other instances they were written by the student, when he was able to do it, and it is only to be seen from the paper itself whether it belongs to the student or to the master. In this special case it appears from the præmium that Ahl really pretends to be the author, although probably he was not.”

This appears to be the earliest attempt at subdivision of the genus *Muræna*, the name *Ophichthus* being intended for all eels with pectoral fins. For some group of these eels it must, of course, be retained.

In the diagnosis of the first three species the phrase “Cauda apterygia” occurs, and it is to eels thus characterized, that the name (more correctly spelled *Ophichthys*) is restricted by Dr. Günther. One of the three species, *ophis*, *serpens* and *cinereus*, must then be taken as its type. Two writers, Bleeker and Poey, have attempted further to restrict the genus *Ophichthys*. By a misapprehension, unfortunate, but easily explained, Poey has considered *Muræna annulata* as the type of *Ophichthys*. As we have seen, this species is explicitly excluded by Ahl, and

*This restriction of the Linnæan genus *Muræna* to *M. helena* and its supposed congeners must, of course, take precedence over the restriction made by Bloch & Schneider in 1801, wherein *M. anguilla* was retained as the type of *Muræna*, and *M. helena* referred to a new genus, *Gymnothorax*.

the name *Ophichthys* cannot be used for the group (*Pisodontophis* Kaup) to which it belongs. It seems to us proper, with Bleeker, to consider *Muraena ophis* as the type of *Ophichthys*. It is the first species mentioned by Ahl, and for that reason it has already been taken by Bleeker as the type. It is also the species which suggested the generic name.

It is, however, not evident what this Linnæan *ophis* may be. It is based on a species of Artedi, which in turn rests on descriptions of Willoughby and Ray. To Ahl it was apparently known chiefly from the figure and description of Bloch. In any event, all the evidence points to a species allied to *Ophichthys triserialis*, *ocellatus*, and the like, and for this group we would retain the name *Ophichthys*. It would then be nearly equivalent to the genus *Oryzodontichthys* of Poey, and would probably, even if viewed as a subgenus only, include the following nominal genera: *Muraenopsis* Le Sueur; *Centrurophis*, *Pacilocephalus*, *Microdonophis*, *Cæcilophis*, *Herpetoichthys*, *Elapsopsis*, *Scytalophis*, and *Leptorhinophis* of Kaup, and most likely several others of the same author.

The genus *Ophisurus* of La Cépède was originally based on two species, *O. ophis* La C. (not of L.) and *O. serpens* L. The first restriction of the name seems to be that of Swainson, in 1839, who removes *O. serpens* as the type of *Leptognathus* Sw., leaving the name *Ophisurus* for *O. ophis* La C. and its allies. Later (1856) Dr. Kaup gave to the latter group the name of *Pisoodonophis*, and made *O. serpens* the type of *Ophisurus*. The earlier restriction must take precedence and the name *Ophisurus* (or *Ophiurus*) must be retained for the species with granular teeth, if they be separated from *Ophichthys* proper. Whether these species again admit of subdivision, as suggested by Poey, does not now concern us, as the American species are typical *Ophisuri*.

The genus *Cacula* Vahl has been adopted (Syn. fish N. A. 358) by the present writers, instead of *Sphagebranchus* Bloch. This name *Cacula* occurs in a memoir (for a copy of which we are indebted to the kindness of Dr. Lütken) in the "Skriver af Naturhistorie-Selskabet" 3d Bind. 2d Hefte. 1794, pp. 149-156, entitled "Beskrivelse af en nye Fiske-Slægt, *Cacula*, af M. Vahl."

In this memoir, reference is made to Thunberg's separation of *Muraena* L., into *Muraena* and *Ophichthys*, and the generic name *Cacula* is proposed for two species. The one is described in full and figured under the name of *Cacula pterygera*. The other is the Linnæan *Muraena cacca*, a species unknown to Vahl, which he renames *Cacula apterygia*. The genus *Cacula* is thus characterized:

"Corpus teretiusculum, alepidotum, Branchiarum apertura collaris, linearis, Pinnæ ventrales & caudales nullæ. Oculi minutissimi."

The species are especially distinguished as *pterygera*, "pinna dorsali analique," and *apterygia*, "pinnis nullis."

This *Cacula pterygera* is the only species of the genus known to Vahl

from autopsy, and also the one placed first by him in his genus. It has been already (Syn. Fish. N. A. 358) considered by us the type of the genus *Cacula*, and this restriction should stand. It is not quite certain what species Vahl had, and his type is not now to be found in the museum of Copenhagen. It is thought by Günther that *C. pterygera* is identical with *Sphagebranchus polyophthalmus* (Bleeker) Kaup. *Sphagebranchus rostratus* Bloch, the type of *Sphagebranchus* Bloch (1795) is also uncertain. It is, however, evident that the two species are closely related, and that both belong to Günther's subgenus *Sphagebranchus* "group A." *Cacula* must therefore take the place of *Sphagebranchus*, of the still later *Dalophis* Rafinesque, and of *Lamnostoma* and *Anguisurus* Kaup. The two species of *Cacula* described from the United States coast are not genuine members of that group, as they have the dorsal large, beginning in front of middle of head, and the gill-openings vertical and lateral, not oblique and ventral as in *Cacula*. The genus *Callechelys* Kaup apparently coincides with this type, and may be accepted as a generic or subgeneric name for them.

The species of "*Ophichthys*" Günther known from American waters, north of the Tropic of Cancer, may be grouped as follows:

- a. No trace of fins anywhere.
- 1. *Apterichthys selachops* Jor. & Gilb.
- b. A high dorsal and no other fins.
- 2. *Letharchus velifer* Goode & Bean.
- c. Dorsal beginning on front of head; pectorals obsolete or nearly so; teeth small; pointed.
- 3. *Callechelys scuticaris* (Goode & Bean).
- 4. *Callechelys teres* (Goode & Bean).
- d. Pectorals developed, usually small; teeth granular.
- 5. *Ophisurus acuminatus* Gronow. (= *longus* Poey.)
- 6. *Ophisurus xysturus* Jor. & Gilb.
- e. Pectorals large; teeth all pointed.
- f. Teeth of each series subequal.
- 7. *Ophichthys miurus* Jor. & Gilb.
- 8. *Ophichthys triserialis* (Kaup).
- 9. *Ophichthys ocellatus* (Le Sueur).
- 10. *Ophichthys macrurus* Poey.
- 11. *Ophichthys chrysops* Poey.
- 12. *Ophichthys zophochir* Jor. & Gilb.
- ff. Some of the teeth strong canines.
- 13. *Ophichthys* (*Mystriophis*?) *schneideri* Steindachner.

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